THE
AGRICULTURAL BULLETIN
OF THE
FEDERATED MALAY STATES.

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CORRECTION.

In Bull: No. 23, entitled, "The Tapping of the Para Rubber Tree," by E. Bateson, issued by this Department, it may be noticed that Plate VI has been inverted. In the text on page 49, the author says—"and consists in removing a strip of bark just above the bud." In the plate as printed, it will be seen that the cut is apparently placed below the dormant bud.

DEPARTMENTAL NOTE.

Mr. L. Lewton-Brain, Director of Agriculture, proceeds on long leave on Oct. 14, 1915. Mr. E. S. Hose has been appointed Acting Director from that date.

NOTICE.

The Subscription for the 3rd Volume of the "Agricultural Bulletin F. M. S." only covers the period until the 30th September 1915. Subscribers are therefore requested to renew their Subscriptions before 20th November 1915.

E. S. Hose,
Ag. Editor.

VULCANISATION EXPERIMENTS ON PLANTATION PARA RUBBER III.

By B. J. Eaton and J. Grantham.

Experiment VIII.

This is another experiment in which the change in rate of cure was traced through all the stages in the preparation of a block

rubber as practised on an estate. Briefly the process of preparation is as follows:—The coagulum is made to thick crepe on one machine, into thin crepe on another and then wormed. The wormed rubber is then placed in hot air driers for 7 to 8 hours at about 130° F until completely dry. It is then blocked while still warm in a hydraulic press.

The following samples were taken.

A. Slab from the coagulating pans.
B. Thick crepe.
C. Thin Crepe.
D. Wormed rubber as it came from the machine.
E. do. after 1 hour in hot drier.
F. do. after 2 hours „
G. do. after 3 hours „
H. do. after 4 hours „
J. do. after 5 hours „
K. do. after 6 hours „
L. do. after 7 hours „
M. The Final Block.

A and B were made into thin crepe after 10 days and dried previous to mixing. The remainder of the samples were allowed to dry (if not already dry) and mixed direct. The samples were vulcanised for times varying from 1 to 3½ hours.

The order of the load-stretch curves when plotted together was A, B, next C and D identical, and then E, F, G. H, J, K, L and M practically identical, *i.e.* A cured most rapidly, B next and so on. The optimum times of cure as indicated by a comparison of the curve with the "Standard optimum curve" were as follows:—

A	B	C and D	E, F, G, H, J, K, L and M
1½ hours	2¾ hours	3 hours	3¼ hours

It will be noticed that the times of cure of A, B and C are the same as those for the corresponding samples A, D, E in Experiment VI. (Vide Agricultural Bulletin Vol. III, No. 10, July, 1915.)

The times at which actual optima calculated on the product of "breaking load" by "extension at break" were obtained, are given below:—

Ref. No.	Optimum time of cure. Hours	Breaking Load kgs. per sq. mm. (a)	Extension at break orig. length = 100) (b)	Product axb
97. A.	1½	1.32	1031	1360
B.	3	1.36	962	1308
C.	3	1.23	960	1180
D.	3½	1.33	947	1259

Ref. No.	Optimum time of cure. Hours	Breaking load. Kgs. per sq. mm. (a)	Elongation. at break (orig. length=100) (b)	Product. axb.
E.	$3\frac{1}{2}$	1.13	946	1068
F.	$3\frac{1}{4}$	1.10	975	1072
G.	$3\frac{1}{4}$	1.10	984	1082
H.	$3\frac{1}{4}$	1.17	982	1148
J.	$3\frac{1}{4}$	1.11	989	1097
K.	$3\frac{1}{4}$	1.07	998	1067
L.	$3\frac{1}{2}$	1.16	965	1119
M.	$3\frac{1}{2}$	1.15	943	1084

Here again A is seen to be much more rapid curing than the others, between which little difference, as regards rate of cure, is apparent, owing to the experimental error on the figures being sufficient to mask the slight difference of $\frac{1}{4}$ hour in rate of cure which is so clearly shown by the curves. The most interesting fact revealed by the figures is however the falling off of the breaking load shown by E F G H J K L and M, all of which had been heated in the hot air drier.

It would seem that besides a slight effect on the rate of cure (*i.e.* lengthening it by about $\frac{1}{4}$ hour) the heating in the drier also leads to a deterioration in mechanical properties. The loads of samples E-M are all similar, hence the maximum effect of the heating was reached in one hour, the period for which E was heated, and subsequent heating was without effect.

Experiment IX.

It was thought probable that by leaving the coagulum in slab form for a week or so before worming and crepeing, a rapidly curing block rubber could be obtained.

With this end in view the following series of samples were prepared on the estate.

A. Block prepared as usual on the day following coagulation.

B. The same as A but with the addition of bisulphite to the latex.

C. Block prepared from coagulum which was left for 10 days in slab form before blocking and crepeing.

D. The same as C but with the addition of sodium bisulphite to the latex.

E. Slab from the same latex left as slab for ten days then creped and dried previous to vulcanisation.

F. The same as E but with the addition of sodium bisulphite to the latex.

The blocks C and D were both dark in colour and no difference in colour due to the bisulphite was noticeable.

The series of samples was vulcanised under the usual conditions.

The load-stretch curves showed that A and B were very slow curing while C, D, E, F cured rapidly. No definite effect was caused by the addition of bisulphite. The optimum times of cure and the breaking point figures are given below.

Ref. No.	Optimum time of cure. Hours	Breaking Load kgs. per sq. mm. (a)	Extention at break (orig. length=100) (b)	Product axb
129. A.	3¼	1.20	1016	1219
B.	3¼	1.18	991	1169
C.	1¼	1.61	979	1576
D.	1	1.41	970	1367
E.	1¼	1.53	962	1471
F.	1¼	1.55	1006	1559

It will be seen that the block rubbers C and D not only vulcanise rapidly but also have superior mechanical properties compared with the slow curing blocks A and B, and are equal in rate of cure and mechanical properties to the slabs E and F.

The preparation of rubber by a process similar to that used in the production of C and D in which slab rubber has been allowed to "mature" and develop a rapid rate of vulcanisation previous to being converted into block form, appears to be a very convenient method of producing a rapidly curing rubber, with good physical properties. Whether a rubber uniform in rate of cure is produced remains to be seen.

A PROMISING COCONUT CLEARING.

By L. C. Brown.

The following brief history of some seed coconuts that were supplied to a coconut estate on the west coast may perhaps prove of interest to those engaged in coconut planting in the Straits and Federated Malay States.

The seeds in question were purchased in 1912 and the General Manager of the estate has furnished the following particulars now recorded:—

Purchase price $65/-
Date purchase .. .. .. April, May, June, 1912.
Number .. .. .. 60,000.
Date set in nurseries .. .. 30,000 in May, 30,000 June.
Number germinated .. .. 53,000.

Percentage germination	about 88%.
Acres planted from this seed	1,104.
Nature of soil	Free clay loam, very little sand.
Date planted	Nov. 26, 1912, to Jan. 31, 1913.
Size of shoots at planting	from 8 inches to 18 inches.
Height at one year	average about twelve feet.
First wood at base	Oct. 1914, age 1 year 10 months.
First spikes and buds	Apl. 30, 1915, age 2 yrs. 5 mos.
Number budded to date	between 50 and 60.
Evenness of growth	Trees are very even.
Average of several hundred trees	26 feet high, 72 inches girth.
Greatest number rings at base	twelve.
Height of wood at base	eighteen inches.
Largest nuts at present time	four inches long diameter.

In commenting upon the satisfactory results that have been obtained I may draw attention to the fact that they afford much instruction that will help towards making coconut cultivation a successful undertaking.

In the first place there can be little doubt that the nuts for the seeds have been carefully selected from healthy and well matured trees and I may also add from my own personal knowledge I am aware that those trees have for years past been productive of good and regular crops.

Considering too the long distance the nuts had to be carried it is obvious, to ensure so good a percentage of germination as has proved to be the case, that every precaution must have been taken in the transport and handling of the seed from the place of delivery until actually planted out in the nurseries that had been prepared for them on the estate.

Although it will be noticed that the nature of the soil is undoubtedly suited for coconuts I would point out that apart from this favourable feature there is abundant reason to believe from the excellent progress the plants have already made that every attention has been given to the proper planting out of the seedlings and further there seems to have been careful supervision on the same lines afterwards in the cultivation, that is to say, from the time the plants were put in the fields up to the present.

As regards this last very important matter I may mention, after my long experience in the industry, that to produce really healthy and productive trees I consider the most critical stage of the plant is in its earlier life, *i.e.* from infancy up to the 3rd or 4th year and during this period the most careful attention must be exercised, a course which I am pleased to say, appears to have been followed in the present instance.

BORDEAUX MIXTURE AS A SPRAY FOR RUBBER TREES.

By A. Sharples.

In a review of Morgan's book, "The preparation of Plantation rubber" the reviewer remarks "the author would confer yet another obligation on the rubber industry if he would carry out an experiment in spraying with Bordeaux mixture and note the effect on the rubber subsequently collected."

The review appeared in the *Tropical Agriculturist* for March 1914, and further remarks may be quoted to indicate the position taken up by Mycologists with reference to Morgan's statement on the question of fungicides. The writer of the review says:—"On the question of fungicides he (Morgan) makes the sweeping statement that 'there can be no legitimate excuse for the use of spraying mixtures containing copper salts on trees (rubber) in bearing, since there are other mixtures equally efficacious and quite harmless.' It has been known for a long time that copper salts cause tackiness in rubber, and in using Bordeaux mixture, a copper fungicide, there is the danger that the copper compounds may be washed into the latex in wet weather. The equally efficacious mixture to which the author refers is lime-sulphur wash, which has just been made the subject of an American boom. It has not previously been claimed that Lime-sulphur mixture is as efficacious as Bordeaux mixture. What is claimed is that it can be used in cases where Bordeaux mixture causes injury."

During investigations made last year by F. T. Brooks, M.A., and the writer of this article, it was necessary to carry out spraying experiments with Bordeaux mixture to determine if spraying methods were likely to be useful in the control of Pink Disease. As stated elsewhere,* mechanical difficulties and climatic conditions in Malaya render such methods useless except in special cases. The experiments were conducted with spraying machines specially adapted for use on plantations in this country. The Bordeaux mixture was made up of the following:—12 lbs. Copper sulphate, 8 lbs. Quicklime and 100 gallons of water.

The experiments were specially conducted to test the effect of Bordeaux mixture salts on the resulting rubber. The rubber was made up in sheet form so that as much of the copper salts as possible was retained. In July and August, 50 trees were sprayed once a week from the level of the upper tapping cut a height of

* Bulletin No. 21. Department of Agriculture, F. M. S.

25-30 feet above this level. Control plots were kept for purposes of comparison. Excess of fluid was applied which ran down over the cuts, channel and spout. None of the rubber sheets from these trees were tacky by the end of November. From September 10 to November 12, the trees were treated as above, but the tapping cuts were deliberately sprayed.

Examination showed a plentiful deposit of blue Copper salts on the spout and tapping cuts after the application. Only one sheet of rubber in the batch, manufactured on October 2nd., was considered to be tacky. This sheet was prepared from latex gathered on Oct. 1st on which date spraying was done. The tacky sheet was much folded together and the surfaces were so sticky as to be inseparable. The experiments stopped in November. All the rubber sheets were kept for several months in the Laboratory but there was no further development of tackiness though the presence of Copper salts in appreciable quantities was demonstrated by the Agricultural Chemist. It can now be stated, that there is little danger in using Bordeaux mixture as a spray against the attacks of fungi on rubber trees. If trees in bearing are to be sprayed with Bordeaux mixture they should be rested for two or three days after the spraying. This period would be quite sufficient to allow for accidents.

AGRICULTURE AT THE BRITISH ASSOCIATION 1914. PART II.

In a previous issue a brief abstract of Mr. A. D. Hall's first address to section M of the British Association was given. The following is an abstract of his second address—but we would urge all those interested in Agriculture who are able to do so, to read and study carefully the full address.

There are two fundamental facts which we have to consider in the progress of civilization—the one, the very dependence of civilization on food supply and the other the oncoming decline of industrialism—as at present interpreted with its huge manufacturing centres—on account of the decreasing quantity of "stored up energy" of the forms of oil and coal.

Now with the passing of industrialism there will not necessarily be a decline in population—on the contrary there will be a steady progression demanding more from the land. With this will arise a still greater importance of agriculture and, if the demands are to be met, as met they must be, there will be a recasting of population, a re-adjustment, resulting in the distribution of men over areas of high productivity.

An enquiry into what land can actually be made to do under existing conditions reveals some interesting facts. Turning to the East we find that the cultivated areas of Japan support a rural population of 1,922 to the square mile, and those of China over 2,000 as compared with the West, where we have United States of America, England, and Belgium, supporting 61, 90 and 200 respectively. This divergence in result between East and West is accompanied by certain fundamental differences in the mode of living of the respective peoples. In the East the standard of living is very low it being stated that 6*d.* a day will pay for a full day's work from a Chinese rural labourer, which sum, the labourer will make suffice to support himself and family.

Taking the East in general this state of affairs seems to prevail in countries—or large areas—where there are no great industrial outlets and results in a system of husbandry or gardening where waste is unknown and where experience has directed method of manipulation of the soil such as is now dictated by science itself; the result is high productivity per arbitrarily fixed area.

Comparison in this light with the West and new countries, the East takes premier place; yet, it is obvious that large-scale-farming, for such western farming is, results in a high productivity per man and it may so be, that on equal basis of comparison the West can compare favourably with the East. However this may be, there will come a time when an increasing population will dictate its terms and result in effort renewed and renewing for the increased production of food. It needs little reflection to see that the effect of this will be of the nature of the increased efficiency of large-scale-farming rather than the development of a system which results in a sub-division of the land, with its accompanying laborious work, its low standard of living and its fastening down of its people to their holdings. But how can the former be achieved? The answer is not far to seek. The goal can be reached by following the paths laid down by science.

The natural query which will be raised will be "what has science done?" Mr. Hall states that it has at present done little more than justify expiricisms. Let us examine some of the facts he discourses upon.

As concerns the soil, the greatest problem of all seems to be the prevention of the wasteage of organic matter applied to the same. We know that much of this waste may be actually attributed to certain bacteria which set free Nitrogen as such from the media in which they grow—that is from the soil. It has been shewn by actual experiment that of the farmyard manure applied to a growing

crop, only one half of the added Nitrogen is recovered in the same. Thus at Rothamstead a piece of land getting annually 14 tons of farmyard manure shews one quarter to be recoverable in the crop, one quarter to remain in the soil, the rest lost.

Perhaps one of the most fascinating pieces of work of the past few years is that concerning soil sterilization processes amongst which comes the elucidation of the nature of the factors governing the sickening of rich media—media full of plant food, such as are made by the horticulturalist for the growing of cucumbers and melons. It is found that after few crops, these, under old methods sicken and have to be discarded. Laboratory experiment has pointed the way to re-instating their fertile qualities, demonstrating that heating the same for an hour or two to the temperature of boiling water gives them life anew. And the cause of the sickening? It has been shewn that in these fertile media there are two sets of organisms the one—various bacteria—which effect the transformation of the combined nitrogen of the manure into forms which the plant can take up, and the other, certain protozoa which feed on them. The simple process of sterilization restores the balance; it obviates wholesale waste.

Mr. Hall emphasized the fact that we are as yet only on the fringe of micro-organic investigation as concerns soil fertility, and showed how necessary it is that we should enlarge our knowledge of the actual food requirements and the various physical conditions under which the members of the micro-flora of the soil work. As concerns manures it is safe to forecast a diminution in manures of Nitrogenous nature, and the ideal,—and a method to which much careful thought and experimentation should be devoted is, that of getting the Nitrogen necessary for our crops from the air, particularly by the use of leguminous plants. It is found that clover in England in its proper rotation gathers enough nitrogen to ensure a crop of 26 bushels of wheat to the acre. And then the query—How can we similarly maintain the production at 40 bushels per acre?

Apropos of this it is interesting in passing to note a fact, which we here perhaps do not realize—the decline in the amount of "farm yard manure" available to the market gardener owing to the coming of motor. The whole question of green manuring requires careful work in laboratory and in field; its possibilities are very wide.

But it may be alleged—these are all side-shows. The thing which is virtually responsible for the continued existence of man is the green leaf. This is actually true. It is this wonderful transformer which is able to use the energy provided by the sunlight to build up its substance from the carbon-dioxide of the air. The

actual modus operandi is shrouded in mystery—we know the beginning and the end; we know that carbon dioxide and water are transformed into sugars and starches, and we know the source of energy which is utilized in bringing about these changes. But experiment has shewn that the green-leaf is a wasteful machine. It does its work by the utilization of one per cent only of its possible energy. Can its efficiency be increased? Can this natural and up to the present inimitable factory be improved upon? That it may even be a possibility may sound a dream, yet it may so be the science will direct the path for its solution.

Reverting from problem of actual science to the sphere of application of its proven principles we find that one of the most magic of all its branches is that concerned with Genetics. One of the many illuminating chapters in recent progress of agricultural science is that which concerns the application of principles of "Mendelism and Selection" to questions of our crops. Where hitherto this and that disease has been enabled to run through our crops, Mendelism has pointed the way to prevention in certain instances by shewing how the recasting of the constitution of the crop may ensure that this host and this disease shall be a duality the existence of which is impossible for all time.

But the production of the healthy plant can and must go further to arrive at the complete solution we strive for; we want its efficiency turned up in the direction of maximum transformation of the crude materials of the green-leaf-factory into actual food substances. "In the cereals for example we want as much as possible of the original stuff manufactured by the leaf to be migrated later in the plant life into the seed." Results in this direction will come in time from the hands of the plant breeder.

On these all important lines has agricultural science progressed: it has progressed farther and will progress yet; but how? Progress in its field is absolutely dependent on Research.

Granted this, how can the research be organised and whence should come the pecuniary support?

It will be understood that results in this sphere of work are the property—almost by right—of every man, and they cannot, even were it desirable that they should, be paid for by renumeration in kind. This puts the question in its wider sense outside the sphere of commercial speculation; private venture can never pay for it and almost every state has now accepted the necessity of maintaining a certain amount of agricultural research. But if the state pays, who shall control? Shall he who pays the piper call the tune? To this query Mr. Hall has some pertinent remarks to make. The

nature of the answer will be directly concerned with the tone we desire to hear.

Agricultural research deals with subject-matter profoundly complex, baffingly difficult, and because of this demands researchers of the very finest quality—men with "the spirit," men free to work in an atmosphere cleared of the hampering influences of compulsory advertisement by result,—for these latter are often the outcome of luck, and in no case can they be produced to order—free from the compulsion to provide passable annual reports for the scrutiny of an official tribunal, free from the worry as to the wherewithal to live: in other words, men provided with a living wage.

The man obtainable, the really satisfactory choice possible where is this ideal atmosphere most likely to be obtained? Mr. Hall decides for the Universities where efficiency is not measured by conformity to rules laid down for the smooth working of a huge organization; where the "unit" has more freedom in matter of expenditure and as is alleged by Mr. Hall in the more important matter of expression of thought. The Universities "though not always temples of free thought" have the looser and more plastic atmosphere.

This freedom is an indispensable asset; but there is yet another and perhaps equally important consideration which earmarks the university as the best institution for agricultural research. A department of the University will not be an isolated institution, and its workers can draw upon the large reserves of detailed knowledge at hand, where, faculty for faculty and subject for subject, authority of the highest standing is obtainable. This common fund of advanced and detailed knowledge is indispensable to the researcher engaged in the more profound inquiries in a field of science which "deals with the fundamentals of life itself."

The scheme which Mr. Hall formulates is one which makes maximum use of all available specialized knowledge, and it embodies the suggestions that each university with a faculty of Agriculture should become the centre for a special branch of agricultural research. How specialized these branches should be would depend on the number of university institutions available, but the keeping of the line of investigation along the line of greatest utility would be ensured through the important medium of that department in each institution which deals both with the teaching of agriculture, and the advising of farmers in their several districts.

Note:—This, so far as the writer is aware, is the first public

discourse on the formulation of a scheme for definite organized effort though time and again we have heard the matter suggested.

Mr. Hall's remarks seem to point an ideal particularly for Great Britain where the universities make the working of the same possible, and where possibly state control may to a degree limit individuality, but in our departments in the tropics this relationship is impossible and will be for many years to come.

Researcher and public alike will be grateful to Mr. Hall for his candid advice, the former especially so for the complete vindication of his position, and the latter for the detailed yet wide embracing discourse on fact and principle, shewing that Agricultural Research is no mere shibboleth but dogged hard work in a field of Research is no mere shibboleth but implies dogged hard work in a field of enquiry whence results can as a rule come but slowly.

G. E. C.

PRESERVATION OF FLOWER COLOUR IN HERBARIUM SPECIMENS.

The following paragraph appears in Nature of Sept. 2, 1915, and may be useful to collectors though so far as we know the method has not been put to the test in this country.

"Botanical specimens are commonly deprived of all beauty, and much of their value, by the loss of colour in the flower-heads. This very serious drawback has now been removed by the timely discovery of a method of colour-preservation by Dr. C. F. Fothergill, and described in detail in the Museums Journal for July. It has the further merit of extreme simplicity. Briefly, Dr. Fothergill employs sheets of absorbent cotton wool, placed in three layers forming two compartments between two "grids," which are made of a "wire-mesh work of half-inch squares with a heavy encircling band." The necessary pressure is obtained by fastening one or two straps, preferably of webbing, around the grids, and tightening them as required. The flowers to be pressed, having been placed in the grids, are then suspended in front of a fire, or in the sun, when this is sufficiently powerful. The explanation of the success of the method is, that the process of drying is so rapid that the pigment is fixed instead of being slowly decomposed. Fresh carnations can be preserved in about seven hours. Primroses picked fresh off the living plant can be permanently dried to retain a lifelike colour in two hours if the press containing them is placed in the oven."

G. E. C.

MINUTES OF MEETING OF THE PLANTERS' ASSOCIATION OF MALYA.

Held at the Chamber of Commerce, Kuala Lumpur, on September 8th, 1915, at 2.30 p m.

Present: Mr. W. Duncan (Chairman)
„ H. C. E. Zacharias (Secretary)

and the following *Delegates*:—

From	Batu Tiga D. P. A.:—	Messrs. H. E. G. Solbé and G. H. Bennett.
„	Central Perak P. A.:—	Messrs. G. Nevill Stevens, H. de Z. Lancaster and A. H. Orr.
„	Johore P. A.:—	Mr. W. N. Gawler.
„	Kajang D. P. A.:—	Messrs. R. C. M. Kindersley, O. P. Dakeyne and E. G. Leyne.
„	Kapar D. P. A.:—	Messrs. E. H. King-Harman and J. G. Cruickshank.
„	Klang D. P. A.:—	Messrs. H. R. Quartley and C. A. Buxton.
„	Kuala Lumpur D. P. A.:—	Messrs. W. Leggatt, H. Armstrong, F. G. Harvey and R. C. Kinder.
„	Kuala Selangor D. P. A.:—	Messrs. J. Hunter and C. W. Bradburne.
„	Negri Sembilan P. A.:—	Messrs. P. W. N. Farquharson, A. Dupuis-Brown, J. Bruce, C. Ritchie, J. Davidson McCulloch, James Rea and G. B. W. Gray.
„	Taiping D. P. A.:—	Mr. E. L. Huson and Mr. W. S. Cookson.
„	Ulu Selangor, D. P. A.:—	Messrs. W. de L. Brooke and F. W. Davies.

Visitors:—Messrs. M. A. P. Gilman, Carlyle M. Bell, Noel Fisher, D. G. Gardner, V. G. A. Reeve-Tucker, E. W. King, G. C. Bailey, B. J. Eaton (Agricultural Chemist), H. Case, M. J. Kennaway and A. G. Overend.

Honorary Members:—Mr. L. Lewton-Brain (Director of Agriculture) and The Hon. Mr. E. Macfadyen.

1. The Minutes of the Meeting held on June 30th, having been printed and circulated, are taken as read.

Mr. *Leggatt* refers to p. 15 of these Minutes and considers that the report of his remarks was somewhat misleading. He moved that the paragraph be altered to read as follows:

"Mr. Leggatt reports that Mr. McCulloch and he had "interviewed the Colonial Treasurer, who gave them a very "sympathetic hearing and expressed himself as not at "all antagonistic towards the proposal. From the local Bank "Managers and all others, whom they had approached, their "proposals had received unqualified support. Nothing now "....."

Subject to this alteration, the Minutes are confirmed and signed.

2. Chinese Immigration.

The *Secretary* reads the following correspondence:—

Kuala Lumpur, 29th July, 1915.

Messrs. Dodwell & Co., Ltd.,
Hongkong.

Dear Sirs,

As you are no doubt aware, the question of Chinese Immigration to the Malay Peninsula has of late become rather acute, owing to the restrictions which after the outbreak of War the Colonial Government of Singapore deemed necessary to impose.

With the dwindled stream of emigrants, the cost of a deck passage from Southern China to Singapore increased as a consequence also very considerably, as will be seen from the following figures which represent comparatively costs (inclusive of brokerage) during the month of June:

	1914.	1915.
From Hongkong	$12-13	$19-23
„ Swatow	10-12	35-50
„ Amoy	10-15	50

I have selected the month of June, because the restrictions by then had already been considerably relaxed, with the result that 7,456 deck passengers arrived in Singapore this year during that month (as against a ten years' average of 15,504 persons for the month of June).

As you are aware, all restrictions were completely removed on the 5th inst. and I should now be much obliged, if you could inform me, whether the various steamer lines have in consequence now reverted to their former passage rates.

I must apologize for troubling you in this matter, but unfortunately it is one, on which I can obtain locally no reliable information, and the free emigration of Chinese labour from Southern

China to these parts closely affects of course as much your own as the interests of members of this Association.

Thanking you in anticipation for your kind co-operation.

Believe me, dear Sirs,

Yours faithfully,

(Sgd.) H. C. E. Zacharias,

Secretary.

Hongkong, 12th August, 1915.

The Secretary,

The Planters' Association of Malaya.

Dear Sir,

We have for acknowledgement your letter of 29th ulto. concerning rates of passage from Chinese Emigrants to Singapore, and in reply beg to inform you that all lines interested in this business here are quoting the same rate, viz. $18, and that it is unlikely that it will decline for some time to come. We regret that we are unable to give you the rates from Amoy and Swatow, but we have written up there enquiring and on receipt of replies we will advise you.

We are, etc.,

Per Pro Dodwell & Co., Ltd:

(Sgd.) Stanleys Dodwell,

Manager.

Hongkong, 1st September, 1915.

The Secretary,

The Planters' Association of Malaya.

Dear Sir,

Referring to your letter of 12th ulto. we give below particulars of Passage Rates from Swatow and Amoy to Singapore which have been kindly supplied to us by Messrs. Jardine, Matheson & Co., Ltd., at those ports:—

Amoy. The rates at present ruling between Amoy/Singapore are as follows and we give also rates in force at the corresponding period last year:—

1914		1915
$65	1st class	$60
55	2nd „	50
20	steerage	15

Swatow. The following is an extract from a letter dated Swatow, 24th August:—

"Before the War the cost of a deck ticket from here to "Singapore was $10 per head.

"Early in August 1914 immigration of deck passengers to "the Straits was prohibited and continued to be illegal until "April of this year when the Colonial Government granted per- "mission for steamers to carry coolies into Singapore up to one "third of the number allowed by each vessel's Admeasurement "Certificate. The rate was then fixed at $30 per head.

"In June one half of the full complement was allowed and "on the 6th July all restrictions were withdrawn and the rate "dropped to $25 per head and still remains so."

On the 28th August they write:—

"Referring to our letter of 24th inst. we have been in- "formed by the Agents of the Ho Hong Steamship Co., Ltd. "that they would take deck passengers to Singapore at $22 per "head, instead of $25 as previously stated."

Trusting that the above information will be of service.

We are, etc.,
Per Pro Dodwell & Co., Ltd:
(Sgd.) Morton Smith,
Sub-Manager.

Kuala Lumpur, 27th August, 1915.

Messrs. Dodwell & Co., Ltd.,
Hongkong.

Dear Sirs,

I am obliged for your favour of the 12th inst. and thank you for the information kindly given.

When writing next, would you please state whether the fare quoted, viz. $18 Mex., is that charged by the steamship companies or whether it includes the brokerage.

Believe me, etc.,
(Sgd.) H. C. E. Zacharias,
Secretary.

Hongkong, 6th September, 1915.

The Secretary,
The Planters' Association of Malaya.

Dear Sir,

PASSAGE RATE HONGKONG/SINGAPORE.

Replying to your letter of 27th ulto. regarding the passage rate from here to Singapore for Chinese Emigrants we beg to advise

that the rate of M $18 is that actually paid by the passengers and is inclusive of brokerage and food.

We are, etc.,
Per Pro Dodwell & Co., Ltd:
(Sgd.) Morton Smith,
Sub-Manager.

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3. Magistrate at Port Swettenham.

The *Secretary* reports that he had so far not received an official reply, but he understood that tentative arrangements were being made for the attendance of a magistrate at Port Swettenham on the days, when B. I. boats were sailing for India.

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4. Application of Labour Code to Small Holders.

The *Secretary* reads the following letter from the Controller of Labour:—

Office of the Controller of Labour,
S. S. and F. M. S.,
Kuala Lumpur, 14th July, 1915.

Sir,

I have the honour to reply to your letter dated 26th June, 1915, regarding a proposal to amend section 66 of the Labour Code by deleting therefrom the words "on a place of Employment."

2. I am still without the further particulars as to the number of estates employing Tamil labourers in numbers less than ten and information as to the actual difficulties arising out of existing conditions, which Mr. Hose asked in his letter dated 13th November, 1913, might be given.

I may remind you that in that letter Mr. Hose stated that the Indian Immigration Committee had decided that sufficient grounds had not been advanced for recommending an alteration of the law.

3. I note that at the meeting of the Planters' Association of Malaya held at Teluk Anson on the 11th January, 1914, Mr. Tayler proposed that all Constituent Associations be written to for information with a view to making out a strong case.

4. Until further particulars as to the actual disability which it is believed the amendment would remove are in my possession I am unable to form an opinion as to the desirability of the amendment or to make any move in the matter.

I have, etc.,
(Sgd.) J. R. O. Aldworth,
Controller of Labour, F. M. S.

The Secretary,
Planters' Association of Malaya,
Kuala Lumpur.

The *Chairman* enquires, whether the matter is to be pressed any further. If not, it had better be dropped.

Agreed to.

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5. Coolies on B. I. Boats.

The *Secretary* reads the following semi-official correspondence:

Negapatam, 12th July, 1915.

Dear Mr. Zacharias,

I have noticed in the *Malay Mail* report of the P. A. M. meeting held at Seremban lately, that a reference was made to the overcrowding in B. I. steamers, and the treatment of coolies while on board these steamers.

With reference to the alleged over-crowding, the steamers on the line, which, I think you will admit, are very up to date and commodious, are allowed by the Indian and Straits Governments to carry an allotted number of coolies, and, in no case, has any of the steamers carried from this Coast any coolies in excess of the number allowed. A special reference is made to the s.s. "Golconda." She has very commodious 'tween and upper decks, and when she has her complement of coolies on board, there is ample space for all. I should welcome any of our Planter friends making a voyage in the s.s. "Golconda" to satisfy himself on this point. The other steamers especially the "Edavana" and "Ekma" are more commodious still. They are modern, built specially for the comfortable conveyance of deck passengers, have spacious well-ventilated 'tween decks and plenty of upper deck space, and I don't think there are any steamers on the coast more suitable for cooly traffic, than the two steamers to which I refer. The s.s. "Tara" is an old favourite and has been on the line for several years now.

I have, during the past years, made frequent visits to the Straits, as also have other members of the firm, and the arrangements on board for the comfort and feeding of the passengers, we have always found very satisfactory.

The Company supply to each steamer on the Straits Line a special crew for the purpose of keeping the 'tween decks and upper decks clean, and their work is specially supervised by the Chief Officer, who also specially supervises the feeding of the coolies.

The only cause that I can think of, which might result in grumbling, is the fact that, in one or two instances lately, the

coolies have been on board several days longer than is usual, awaiting the arrival of the English Mails. As a case in point, I would refer to the "Edavana" now in port. She took on board in Madras on the 9th inst. 980 coolies and embarked at Negapatam on the 10th idem, 1,250 coolies.. The steamer will not sail until to-morrow, 13th idem, (the Europe Mails are late and arrive only then); consequently, the coolies have been on board all that extra time.

This is done by way of assisting the Emigration Authorities here, owing to the Government camp not being sufficiently large to accommodate a large number of coolies for a long period, and it further enables the Government Representative here, having his camp thoroughly cleaned and disinfected, ready to receive the coolies arriving for next week's shipment. Having the coolies on board so much longer means, extra expense to the B. I. S. N. Co. in dieting them; but the fact however that the Authority on this side, who, I may say, is very experienced, ships on occasions all the coolies from his camp several days before the steamer can sail, would rather indicate that he, at any rate, has confidence in the B. I. Co., treating the coolies in a proper and satisfactory manner. I can assure you and your Association that it is the wish of the B. I. S. N. Co. that the Native passengers should have every comfort, and we ourselves, as agents for so many planters, are particularly interested that the coolies should be well treated, and our personal attention will always be directed accordingly.

I am going Home in a day or two, but return again in about two months, when I intend visiting the Straits, and will then be glad to meet Members of your Association and discuss the matter, which is the subject of this letter.

Meantime, I have sent the report of the meeting at Seremban to the Managing Agents of the Company at Calcutta, who will take steps to see that their intentions, *i.e.* that all deck passengers should be made as comfortable as it is possible to make them, are always carried out.

Yours sincerely,
(Sgd.) D. G. McConechy.

H. C. E. Zacharias Esq.,
Secretary,
Planters' Association of Malaya.

Kuala Lumpur, 26th July, 1915.

Dear Mr. McConechy,

I am obliged for your letter of the 12th inst. which I have perused with interest.

I am glad you have brought the matter to the notice of your Managing Agents and I hope that in future there will be no further cause for complaints, which are as much against your own as well as our interests.

As far as I understand the position, the real culprits seem to be the deck hands and Indian subordinates generally, at whose hands the coolies appear to receive a good deal of knocking about, when the ships' officers are not looking.

I shall be glad to see you here in a couple of months and in the meantime will read out your letter at the next meeting of the Association.

Yours sincerely,
(Sgd.) H. C. E. Zacharias.

Mr. *Stevens* felt bound to say, that in his opinion the s.s. "Golconda" was anything but convenient for this traffic.

Mr. *Macfadyen* reminds the meeting that this was really the first time they had heard of any serious complaints in respect of this service and that at a very abnormal time. They had made their complaint and he thought the matter might well rest there, as the Madura Co. were and always had been only too anxious, to work hand in hand with the Planters.

Mr. *Duncan* thinks he expresses the sense of the meeting when he suggests that no further steps be taken.

Agreed.

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6. Outside Employment on Sundays.

The *Secretary* reads the following correspondence:

Caledonia Estate,
Province Wellesley,
22nd July, 1915.

Sir,

In further reply to your letter No. 1851/1915, of 14th June, on the subject of clause 3 of the private Bill introduced by the Hon. Mr. E. Macfadyen, I have the honour to state that the matter was discussed at a meeting of the Planters' Association of Malaya, held at Seremban on 30th June, and that the following decisions were arrived at:

(2). The Meeting did not view favourably the suggestion contained in paragraph 2 of your letter, to the effect that regular employers of labour should be required by law to pay full wages

for six days in each week to all labourers who are willing and fit to work on those six days.

(3). It was proposed, seconded and carried at the Meeting that the Association's Legal Adviser be asked to draft a proposed addition to section 99 of the Labour Code, to be submitted for Government's consideration, such addition to embody a provision that it be an offence on the part of anyone, other than the regular employer, to employ Indian coolies on legal holidays without the consent of their regular employer, and that such consent may not be withheld if their regular employer is unable to provide six days' work for the coolies in any one week.

I have, etc.,

(Sgd.) W. Duncan,

Chairman, Planters' Association of Malaya.

Sir E. L. Brockman, C.M.G.,
Chief Secretary, F. M. S.,
Kuala Lumpur.

Kuala Lumpur, July 7th, 1915.

Messrs. Drew and Napier.

Dear Sirs,

With reference to the draft amendment to the Labour Code, which you kindly drew up for us as Section 99 (*a*), I shall be glad if you will kindly re-draft same by adding a provision that it be an offence to employ coolies without the consent of the regular employer and that such consent may not be withheld if the regular employer is unable to provide six days' work to the cooly in any one week.

Believe me, etc.,

(Sgd.) H. C. E. Zacharias,

Secretary.

Kuala Lumpur, 6th September, 1915.

Dear Sir,

AMENDMENT TO LABOUR CODE.

We enclose draft of a section dealing with work on Sundays and other days when coolies are not bound to work, in accordance with your letter of the 7th July.

Yours faithfully,

(Sgd.) Drew and Napier.

Secretary,
Planters' Association of Malaya.

99 A (1). "No labourer bound by agreement or contract to serve an employer for a period exceeding one week shall during the continuance of such agreement or contract work for any person other than such employer upon any day on which the labourer shall not be bound to work for the said employer or upon any day on which he shall be entitled to absent himself from work for the said employer or upon any holiday unless such employer shall have consented thereto in writing and no person other than such employer shall unless such consent shall have been given employ any labourer upon any of such days as aforesaid."

"Provided always that such consent shall not be withheld by any employer who does not provide work for the labourer on the six days on which he is bound to work for such employer immediately preceding the day in respect of which such consent is applied for."

The Secretary is instructed to submit accordingly an amendment to the Hon. Mr. Macfadyen's private bill.

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7. Currency.

The *Secretary* reports that the Standing Committee, to whom the matter had been referred, had decided to ask for the additional issue of $10,000 in ¼ cent pieces and $15,000 in ½ cent pieces.

Mr. *Harvey* questions, whether seven millions of these coins was not a great deal too much to ask for.

Mr. *McCulloch* observes that discussion on the subject had dragged on for too long already and that it was just about time, some definite step was taken. He understands that the Government could not consider the issue of only a trifling amount and points out that $3,000 worth of ¼ cent pieces were already wholly in circulation in the Colony alone.

The Standing Committee's decision is approved.

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8. Agricultural Department.

The *Secretary* reads the following letter:

Kuala Lumpur, 7th July, 1915.

Director of Agriculture, F. M. S.,
Kuala Lumpur.

Sir,

I have the honour to acknowledge receipt of your letters 2/503 and 1/548 of the 16th and 25th ulto., which I duly submitted at the last meeting of this Association held on the 30th

ulto., when I was directed to thank you on behalf of the Association for the invitation kindly extended to them and to say that the members will gladly avail themselves of same on the morning of the next General Meeting of this Association, which is to be held at Kuala Lumpur in the afternoon of September 8th.

I have, etc.,
(Sgd.) H. C. E. Zacharias,
Secretary.

Mr. *Duncan* says they had had that morning the pleasure of a very instructive visit to the Vulcanizing Plant of the Agricultural Department and he proposed that a hearty vote of thanks be passed to the Director of Agriculture and his staff.

Agreed to by acclamation.

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9. War Relief.

The *Secretary* reports having approached all constituent associations, as instructed at the last meeting, and submits the following circulars, as issued:—

Kuala Lumpur, 7th July, 1915.

Dear Sir,

War Relief Fund.

At the last Meeting of this Association held on the 30th ulto., it was decided that a new P. A. M. War Relief Fund should be opened and that the collection of money for same should be left in the hands of the several constituent Associations, who on their part would be asked kindly to forward totals collected to the parent Association, say once a month.

Thanking you in anticipation for your kind co-operation.

Believe me, etc.,
(Sgd.) H. C. E. Zacharias,
Secretary.

Kuala Lumpur, 11th August, 1915.

Dear Sir,

"*Planters' War Relief Fund.*"

Enclosed I beg to hand you.....copies of a circular* which has been prepared for distribution by the Hon. Secretaries of all Constituent Associations.

The suggestion is that each Hon. Secretary should date and sign this circular letter, as emanating from himself, and address it to all Managers and assistants in his district.

* vide Appendix A.

At a convenient time, say, the 21st of each month, all funds collected, should be remitted to this office.

Trusting that the use of the circular, as suggested, will facilitate the collection of funds.

Believe me, etc.,
(Sgd.) H. C. E. Zacharias,
Secretary.

The only two adverse replies he had received were as follows:—

Kuala Selangor District Planters' Association.
Bukit Cheraka Estate.
Jeram P. O.,
July 28th, 1915.

The Secretary,
Planters' Association of Malaya.
Dear Sir,

War Relief Fund.

At a meeting of my Committee held on the 26th inst. your letter of the 7th ulto. re the above Fund was discussed. It was the unanimous opinion of the meeting that "as there are so many different War Relief Funds to which a planter can subscribe, it did not see the necessity of another such fund, but if any planter wished to subscribe to it he could do so through the Hon. Secretary who would forward it to the proper quarter."

Yours faithfully,
(Sgd.) J. M. Booth,
Hon. Secretary.

The Singapore Planting Association.
Singapore, 10th July, 1915.

The Secretary,
Planters' Association of Malaya,
Kuala Lumpur, F. M. S.
Dear Sir,

War Relief Fund.

In reply to yours of the 7th inst. we are directed to say that it is not thought advisable to open up a new War Relief Fund.

The Prince of Wales' War Relief Fund has been opened here for a long time and all planters here have been invited to subscribe. Doubtless those who are able to subscribe again will not need to be reminded that the Subscription List to the Fund is still open.

Yours faithfully,
(Sgd.) Evatt & Co.,
Secretaries.

On the other hand, he had to date been able to acknowledge receipt of the following contributions in respect of July and August collections, viz: from

Kapar	$1,915.38
Negri Sembilan ..	1,094.26
Batu Tiga ..	535.00
Taiping	423.66
Kuala Lumpur ..	144.61
Ulu Selangor ..	136.68
Lower Perak ..	110.00
	$4,359.59

He had also addressed the Rubber Growers' Association as follows:—

Kuala Lumpur, July 23rd, 1915.

The Secretary,

Rubber Growers' Association.

Dear Sir,

War Relief.

On behalf of the newly appointed local committee I am addressing you in connection with the above, and the donations which so many Companies owning Rubber Estates are making towards one or another of the big National War Funds.

As you are aware, numbers of men have gone Home from here and of these by no means all hold commissions. The pension earned by private soldiers will be very small and it is in our opinion a very clear duty to see to it, that in cases of disablement or death, all our planters and their dependents, should, if possible, be provided for on a much more liberal scale than the official one.

A large sum of money was contributed locally early in the War to the Prince of Wales' Fund. More recently a second Fund has been inagurated. This however is carefully refraining from appealing to any but individuals. It is, moreover, primarily intended for Red Cross work, and although contributions may be earmarked for the relief of local sufferers from the war only a few thousand dollars have been so earmarked, and even this small sum is not specially intended for Planters.

I am now instructed to enquire whether the R. G. A. considers the moment opportune for appealing for contributions (or guarantees) to meet the need which it is only too certain must arise in this connection. If you thought it well to issue a joint appeal from the R. G. A. and P. A. M. the latter would be in a good position to approach private owners and Companies domiciled out here. The

collection of funds from Home Companies or individuals would, we assume, be undertaken by your Association.

If this proposal commends itself to you, the sum raised will no doubt be much more substantial than if the P. A. M. is left to collect locally without assistance in London.

From the enclosed Minutes you will see that the P. A. M. at their last meeting held on the 30th ultó. decided to start a War Relief Fund of their own, which new P. A. M. Fund is, you will understand, additional to those enumerated in (3) above and care will have of course to be exercised to prevent overlapping between F. M. S., P. A. M. and R. G. A. Funds and this we think will best be achieved by our co-operation.

We therefore strongly commend this proposal to your favourable consideration and remain,

Yours faithfully,
for the R. G. A. Local Committee:
(Sgd.) H. C. E. Zacharias,
Secretary.

As regards the Federated Malay States War Relief Fund, he understood that the Selangor Chamber of Commerce had aproached the Straits Settlements' Association in London on the question of "the danger of the clashing of funds arising from the recent creation of a special Planters' Fund, which had been organized subsequent to the inception of the F. M. S. War Relief Fund, one of the objects of which was to provide for the relief of all those disabled through the War, irrespective of their profession or occupation." He was informed that the Chamber had suggested that the S. S. Association on behalf of the F. M. S. Commercial community should approach the R. G. A., pointing out the urgent necessity for general co-operation of the two interests, with a view to eliminate all but one general fund (viz. the F. M. S. War Relief Fund), the proceeds of which (under scheme No. 2 of that Fund) should be administered by a joint Committee at Home.

He had also received the following letter from the Hon. Mr. W. F. Nutt, as Hon. Secretary of the Central Committee of the F. M. S. War Relief Fund:—

Federated Malay States War Relief Fund.
Central Committee,
Kuala Lumpur, 1st Sept.,, 1915.

The Secretary,
Planters' Association of Malaya,
Kuala Lumpur.

Dear Sir,

I duly received the copy of your Report 3 to the Rubber Growers' Association and note your remarks in connection with the F. M. S. War Relief Fund. As mentioned to you on the 'phone I send you a supply of a recent appeal* issued by the Central Committee of the F. M. S. War Relief Fund which you may consider advisable to circulate at the meeting of the P. A. M. to be held on the 8th inst. I would draw your attention to the paragraph at the head of page 3. This circular has the approval of the Chairman, Sir Edward Brockman, and therefore is recognised by the Government. It therefore appears to me important that there should be only one recognised fund for the relief of those from the F. M. S. incapacitated from further work or for the relief of their dependents in case of death. The collecting of funds from planters through the various district associations is excellent in every way, but I think both funds would be benefited if merged into one and I think the F. M. S. War Relief Fund should represent all Britishers in the Federated Malay States. District Associations if they thought advisable could pay in monthly their monthly contributions into the No. 2 Scheme of the F. M. S. War Relief Fund as from 'so and so' Association. I would also venture to suggest that as the fund grows it should be remitted to the Malay States Information Agency to be controlled by a Committee consisting of two members of the Rubber Growers' Association (preferably men who have resided in the F. M. S.) and two members of the Straits Settlements Association *i.e.* the Selangor Chamber of Commerce representatives, at present Dr. Travers and Mr. Gilmour with Sir W. Taylor as Chairman. The duty of the Committee would be to administer and invest the fund, to search out cases where relief is required, and to attend to all applications for relief. I send this letter to give you my personal views on the matter and not with any wish to dictate to your Association.

Yours faithfully,

(Sgd.) W. F. Nutt.

The *Secretary* concludes by reporting, that all expenses in Malaya," were being borne by the Planters' Benevolent Fund of Malaya," was being borne by the Planters' Benevolent Fund of Malaya, so that all subscriptions, as received, were available for distribution. The money received so far formed part of the current bank balance of the Benevolent Fund.

Mr. *Macfadyen* remarks that the correspondence read out suggested that much confusion and overlapping might result from

having so many different funds—F. M. S., P. A. M., R. G. A. and Chamber of Commerce. He did not, however, think it would be right, to merge the P. A. M. Fund in the F. M. S. Fund. The P. A. M. Fund had been started, deliberately, as a separate one and contributions had been paid in on that basis and there was the consideration that only half the planters included in the P. A. M. were F. M. S. residents at all. The P. A. M. was much more than an F. M. S. Association: it covered the whole Peninsula.

Moreover, there was the obvious and important fact that the P. A. M. had touched sources of supply—and very liberal ones—which were not reached by the F. M. S. Fund. By merging the two Funds in one no more money could be raised and less might be. In fact from the point of view of collecting as much as possible—presumably the chief object of anyone concerned—you could not have too many people collecting.

The risk of overlapping was when it came to distributing the money. And as the Benevolent Fund Committee were not in a position to distribute without having recourse to some one agency or other in London he thought they should be empowered to distribute the money collected through any such agency, provided it were an honorary one, which might be constituted to deal with all sufferers from this part of the world. If this were done we should be free from any suspicion of selfishly restricting our aid to our own people and it appeared to him certain that we should also be able to participate in the additional grant the Government were expected to make.

After other delegates had given utterance to their views on this matter he would ask leave to propose a resolution.

Mr. *Farquharson* thinks the distribution of the money might well be done with the assistance of the R. G. A. In the meantime, the fund was being administered free of all expense by the Benevolent Fund. He would remind them that Ceylon planters on a similar scheme were putting up Rs. 15,000 a month and he for one did not see why they in this Peninsula should not similarly raise $15,000 per month.

Mr. *McCulloch* considers the original idea of restricting the benefit of their fund to planters most ungenerous. He instances two brothers, one a planter, the other a merchant and feels sure they would not wish to exclude the latter. After all the men who had gone to the front were about 80% of the planters and it went against one's grain to differentiate against the small minority, constituting the balance of 20%.

Mr. *Kindersley* fears that the No. 2 scheme of the F. M. S. War Relief Fund will come to nothing, unless it gets the solid support of the planters and he does not see why the money collected by them should not be handed over to the No. 2 scheme straight away.

Mr. *Cruickshank* protests strongly against the idea of amalgamating their own with the official F. M. S. Fund. For one thing it had been proved that people would subscribe to their own fund, who would not support the F. M. S. fund, and for another it seemed obvious that cases needing relief would receive a far greater amount of sympathy and understanding at the hands of fellow-planters than from an official body of outsides. The whole matter could not be in better hands than in those of their Benevolent Fund, who had the confidence of everybody, and he would strongly urge them all, to leave it there.

Mr. *Duncan* regrets that there should be a difference of opinion, but he for one must say, that he could not support the idea of an amalgamation. In fact, it was impossible to do so, unless subscribers' leave to such a change was obtained. They should not forget that theirs was the Planters' War Relief Fund of *Malaya* and that they could not hand over money received from outside the F. M. S. to a purely F. M. S. Fund. The sectional difficulty, he thinks, could easily be got over, if planters gave, say, 80% of their contributions to the Planters' and 20% to the other Funds, assuming that it was a fact that 80% of the men who had gone to the front were Planters.

Mr. *Stevens* is sorry that at a time of calamity like the present when nations pooled the whole of their resources, they seemed unable to pool their own small charities.

Mr. *Macfadyen* quite agrees, only he believes that the pooling process should not be applied to the collection of funds, but to their distribution. He now begged formally to propose:

> "That money raised by the Planters' War Relief Fund
> "may be distributed jointly with other moneys raised otherwise
> "through whatever agency may in future be constituted in
> "London for the distribution of relief for the benefit of all
> "men who have gone to the front from British Malaya."

Mr. *Dupuis-Brown* reminds the meeting that the Government official always had his pension to fall back upon, whilst the planter had nothing. This should be kept in mind, when alleging lack of generosity on their part. Another point was, whether the F. M. S. Fund was going to be sympathetic or not in affording relief, that the only proper people to distribute their money were their own nominees and nobody else.

Mr. *Huson* remarks it had taken some time for people to find out, what the F. M. S. fund was really intended for. As for their own fund, he had never understood that its benefits were strictly limited to planters.

Mr. *Leggatt* hardly understands how it would be called selfish for them to look after the relief of 80% of the men who have gone to the front, leaving it to the rest of the population to look after the remaining 20%. He certainly thinks the Government should put up dollar for dollar in their as in all other cases.

Mr. *McCulloch* moves that the scope of their fund be enlarged to apply to all men who have gone Home from the Malay Peninsula, irrespective of their being planters, and that the distribution of monies be made in conjunction with the F. M. S. Fund.

Mr. *Macfadyen* considers this motion to be substantially the same as the one suggested by him and, after consultation.

Mr. *McCulloch* withdraws his and seconds Mr. Macfadyen's proposal.

The *Chairman* then puts the resolution to the Meeting and declares it carried with one dissentient.

Mr. *Ritchie* thinks it will be necessary to inform all subscribers of the change in scope, so as to give them an opportunity of demanding their contributions back.

Mr. *Farquharson* thinks that probably there may be already some urgent cases requiring relief immediately and he would suggest that £500 be sent to the R. G. A. accordingly without delay.

Agreed to.

10. Sunday Labour.

The *Secretary* submits the following correspondence:—

Kuala Lumpur, 7th July, 1915.

The Rt. Revd.

The Lord Bishop of Singapore.

My Lord,

Reverting to my letter of May 3rd, I have the honour to inform you, that the question of Sunday Labour was again considered at a General Meeting of this Association held on June 30th, when it was resolved "that the present time is quite unsuited for the introduction of the necessary legislation, and that the question be left in abeyance."

I have, etc.,

(Sgd.) H. C. E. Zacharias,

Secretary.

38 Eastcheap, London, E.C.
8th July, 1915.

The Secretary,
The Planters' Association of Malaya.

Dear Sir,

At a meeting of our Council held this week, a communication was read from the Bishop of Singapore, requesting an interview on the subject of Sunday labour on Rubber Estates in the Middle East.

The matter was carefully considered, and the Council also had before them the report of the meeting of the Planters' Association published in the *Malay Mail* of the 29th April, and also a communication from Mr. Duncan intimating that the matter had been discussed by your Association and deferred for consideration at a meeting which was fixed for the 30th June.

The Council, therefore, decided to leave the matter in the hands of your Association, and to wait until the views of your Association are known, and probably you will be communicating to me in the matter.

For the purpose of record, I enclose herewith a copy of the letter which I wrote to the Bishop, conveying the Council's decision.

Yours faithfully,
(Sgd.) Frank G. Smith,
Secretary.

The Rubber Growers' Association.

London, 7th July, 1915.

Sir,

I have to advise you that your letter of the 18th June, relative to Sunday labour on Rubber Estates in the Middle East, was duly submitted to and considered by my council at their meeting this week.

My Council came to the conclusion that the question of Sunday labour came within the category of matters which are considered both wise and politic to leave in the hands of the Executive Planting Committee on the spot, and, in this connection, my Council had in mind the fact that this Association had recently arranged for local representatives in Malaya, and that in these circumstances, the Association would necessarily have to be guided by the recommendations of the local Planting Association.

Since the receipt of your letter, intimation has been received by my Council that the subject matter of your letter has been discussed

by the Planters' Association of Malaya, and the question deferred for consideration at a meeting of that Association, fixed for 30th June.

My Council have, therefore, decided to leave the matter to the Planters' Association of Malaya, and to wait until the views of that Association are known.

In communicating this decision to you, I was directed to thank you for having brought the matter to the notice of my Council.

I am, etc.,
(Sgd.) Frank G. Smith,
Secretary.

The Rt. Rev.
The Lord Bishop of Singapore.

Kuala Lumpur, 5th August, 1915.

Frank G. Smith, Esq.,
Sec: Rubber Growers' Association.

Dear Sir,

I thank you for your favour of the 8th ulto. re Sunday Labour and now beg to enclose my report for July, from which you will see, that the proposal to stop Sunday Labour on estates has encountered much opposition amongst the members of the P. A. M. and was definitely defeated at their last Meeting on June 30th.

Believe me, etc.,
(Sgd.) H. C. E. Zacharias,
Secretary.

11. Elephants' Damage to Agriculture.

The *Secretary* reads the following correspondence between Mr. Huson and the Perak Government:—

Trong, 3rd March, 1915.

Sir,

I have just returned from a visit to the Union Kongsi Estate, Sungei Siput, in which I and others are interested.

I may say I had had ominous reports as to the damage inflicted by Wild Elephants, but I was simply appalled by what I saw. The aggregate of damage is in the region of 130 acres, of what should be 16 months old rubber.

In this acreage it is not a question of mere injury; the rubber is simply wiped out and there are not more than two or three trees per acre left. Translated into money our loss is equivalent to about £2,000.

Our older rubber is very patchy due to previous Elephant inroads, and the supplies in most cases can hardly hope to mature owing to the increasing shade of the other trees, so that apart from finance, much of the older damage was irremediable.

Although most of the estates in the district have suffered badly from time to time they are mainly powerful companies, better able to stand the loss than small private owners.

In view of wide spread complaints, much was promised by your predecessor and practically nothing achieved. A subscription was called for among planters at Mr. Ellerton's suggestion to which the Union Kongsi contributed as much as the largest companies; all apparently to no purpose.

I happened to see Datoh Sri Adika Raja on Monday, and as I knew he was formerly entrusted with the Elephant question I asked for news.

He said "what do you expect what is the good of putting town Malays on day pay to catch Elephants, the only way is to put a strong man, who knows the jungle, employing jungle men on a contract basis. I repeatedly told the Government so."

The plain facts are that this horde has done damage for years, and in many instances nearly caused loss of life, yet any measures that have been taken have been inept.

I trust that you will take the matter up again with the Resident and in view of Datoh Sri Adika Raja's comments, I would suggest the collaboration of the District Officer, Upper Perak, or of some one else conversant with the jungle and its denizens.

I have, etc.,
(Sgd.) E. L. Huson.

To
The District Officer,
Kuala Kangsar.

Trong, 31st March, 1915.

Sir,

(1). Recently you verbally informed me that the Conservator of Forests was paying a visit to Sungei Siput to view damage done there by Wild Elephants, and to report as to the best means of preventing their raids. I should be grateful if you would inform me of the results of this visit.

(2). I read from the papers that the District Officer, Kuala Kangsar, was recently in Sungei Siput, in connection with the Elephant problem. This gentleman is reported to have said that as regards the more recent raids the planters were to blame, in not taking any measures themselves.

This, if true, is a most extraordinary statement, which I desire most strongly to combat, as also views verbally expressed by the same officer, that the whole question was one which Government did not consider came within its purview.

Such views, I take it can only be the expression of a single officer's private opinion, and are entirely subversive of all ethics of Government, not only so, they are stultified by the action and financial assistance rendered by Government, in the Kuala Selangor District.

(3). Would you ask the Resident if he would be prepared to fix a date to meet some of the planters of the district to discuss the best means of combatting this pressing trouble, when the attendance of the Conservator of Forests and his advice would be of great value.

(4). Most planters think these are only two probable remedies:—

(*a*) A properly organised "Kubu" with professional catchers to be paid by *results*:

(*b*) A large organised battue, as in the Kuala Selangor District, with some first class shots and trackers; payment to be made at so much per head killed.

(5). There is a Mr. Hay in Selangor who, himself a brilliant shot and shekarry, did yeoman service there, and this gentleman, if approached, would I feel sure gladly undertake to organise a proper "round up."

I would suggest that *both* measures (*a*) and (*b*) be tried.....

I have, etc.,

(Sgd.) E. L. Huson.

The Secretary to the Resident,
Perak.

The Secretariat,
Taiping, 5th July, 1915.

Sir,

In reply to your letter dated 31st March, 1915, regarding the damage done by wild elephants to Estates in the Sungei Siput District of Kuala Kangsar, I am directed to inform you that the British Resident, after full enquiry and consideration, is not prepared to recommend either of the proposals put forward by you in your letter under reply.

I have, etc.,
(Sgd.) Oliver Marks,
Secretary to Resident, Perak.

E. L. Huson Esq.,
Trong.

Mr. *Huson* explains the way this matter had arisen and been treated by the Perak Government and asks for the support of the parent Association in getting their legitimate grievance remedied.

Mr. *McCulloch* quite supports all Mr. Huson had said. He also was interested in a small estate near S. Siput, in fact there was no doubt, that practically all the damage had fallen on private owners, who could ill afford such serious losses. The trouble arose through the fact of elephants being protected animals and as the Government made money out of them, he held that they were responsible for any damage they committed. The Government left it to the individual to protect himself as best he could, but this attitude seemed to him as reasonable in this case, as it would be in the case of locusts. What ought to be done, was the issue of a good reward for every elephant killed or caught, and if the local shikaries were unable to achieve this, he recommended the importation of competent men from India or Burmah.

Mr. *Orr* quotes figures to bear out the two previous speakers. In his own case 130 acres out of 400 had been wiped out. Reyla Estate had lost through elephants 180 acres, Plus 50; Elphil 200, Sungei Krudda 10, Maidenhead 20.

The herd was about 40 head and $1,000 had already been handed to Government by the planters of the district, for catching them, but the result so far had been nil. The fact was, the Government did not wish to interfere with what was a Malay game reservation and as much as told them, that it was the planters' fault, for opening up land in that district.

Mr. *Duncan* certainly thinks the Government were morally, if not legally, responsible for the damage and suggests that a deputation consisting of Messrs. McCulloch, Huson and Orr and himself wait on the Chief Secretary.

Agreed.

---

12. Weekly Payment of Wages.

The *Chairman* invites expressions of opinion on the point raised by the Perak Government. There being none the matter is dropped.

As regards the further items on the agenda, he regretted to see the number present had dwindled to such an extent and in the circumstances suggested that they be left over until their next meeting.

Approved.

As for the next meeting of the Association, he would invite them to Penang, and suggested November 29th.

This having been agreed to, the meeting terminates at 4.30 p.m.

H. C. E. Zacharias,
Secretary.

Appendix A.

PLANTERS WAR RELIEF FUND

Dear Sir,

In commending to your support the War Relief Fund which has been opened under the auspices of the P. A. M., I may explain that this fund is intended for the relief of Planters from the Malay Peninsula, who may be incapacitated during the War, or of their dependents.

Many cases must arise from the War, when an annuity of say £50 a year (representing an approximate capital of £1,000) will make all the difference between extreme privation and some degree of comfort. A recent correspondent to the "Malay Mail" puts the matter forcibly when he points out that it would not be pleasant to find a fellow planter, who had been crippled when serving in the ranks, working the lift at a "Tube" station for the lack of the small supplement to his private soldiers' pension which his brother planters could well supply.

The fund has already been started in several districts, and a generally approved plan seems to be the subscription of one day's pay per mensem. The scheme working in one district is that "every planter subscribe one day's pay (or more) per mensem, the amount to be collected by the Manager of each Estate, and to be sent to the Honorary Secretary of his D. P. A. The Manager will acknowledge receipt of sums to each assistant, a list of subscribers will be kept by the Honorary Secretary, and the list be published monthly, or read out at General Meetings of the D. P. A." It will be a matter for each Constituent Association to decide how its fund shall be collected but it is to be hoped that no Association will fail to respond.

It is also hoped that subscriptions will not be withdrawn at the end of the War until the necessary amount required for the adequate relief of the wounded (and their dependents) can be ascertained and assured.

Even if subscribing to other funds, the opportunity of supporting this special Planters' Fund should appeal to all planters who have themselves been unable to serve, and will thus be given an opportunity to relieve the necessities of sufferers, who in all too many cases will at least be personal acquaintances of the subscriber, if not actually close friends or the dependents of such.

The management of the fund to be raised will be placed in the

hands of the Standing Committee of the Planters' Benevolent Fund of Malaya, which fact will not only ensure the elimination of all administration charges, but also guarantee both a fair and sympathetic consideration of future claims.

Believe me, Dear Sir,
Yours faithfully,

APPENDIX B.

FEDERATED MALAY STATES WAR RELIEF FUND

CENTRAL COMMITTEE, KUALA LUMPUR, SELANGOR, FEDERATED MALAY STATES.

Telegrams: NUTT. Telephone: 73 & 45.

CHAIRMAN:

Sir Edward Brockman, K.C.M.G.

APPEAL COMMITTEE:

The Hon. Mr. R. G. Watson, C.M.G., *Resident of Perak.*
The Hon. Mr. E. G. Broadrick, *Resident of Selangor.*
The Hon. Mr. A. H. Lemon, *Resident of Negri Sembilan.*
The Hon. Mr. E. J. Brewster, *Resident of Pahang.*
The Hon. Mr. W. F. Nutt, *Member of Federal Council.*
The Hon. Mr. E. Macfadyen, *Member of Federal Council.*
The Hon. Mr. Eu Tong Sen, *Member of Federal Council.*
The Hon. Mr. A. Payne Gallwey, *Member of Federal Council.*
The Hon. Mr. A. H. Kenion, *Member of Federal Council.*
Mr. Loke Yew, C.M.G.
Mr. Alma Baker, *President of the F. M. S. Chamber of Mines.*
Mr. E. T. C. Garland, *Chairman, Perak Chamber of Commerce.*
Mr. H. P. Clodd, *Chairman, Selangor Chamber of Commerce.*
Mr. J. A. Russell, *President, Selangor Miners' Association.*
Mr. James McClymont, *Merchant, Negri Sembilan.*
Mr. A. H. Bibby, *Miner, Pahang.*
Mr. Yap Loong Hin, *Chairman, Selangor Chinese Chamber of Com.*
Mr. Choo Kia Peng, *Vice President, Selangor Miners' Asso.*
Mr. Parimanam Pillai.

HON SECRETARY:

The Hon. Mr. W. F. Nutt.

HON. TREASURER:

The Chartered Bank of India, Australia and China, Kuala Lumpur, Ipoh, Taiping, Seremban, Klang.

The response to the appeal for donations and subscriptions to the Federated Malay States War Relief Fund has been generous, but a very much larger sum will be required to fulfil adequately the main objects in view and we earnestly ask not only that the monthly subscriptions already promised may be steadily maintained but that those who have not already given their support may help with sub-

scriptions however small. Banks will receive cheques for small amounts and will also undertake to pay in regularly to the Fund monthly subscriptions if an order is given. A form of order on bankers is enclosed.

The Central Committee has been able, as a result of the support already accorded, to cable the sum of £7,000 to Sir William Taylor, who has kindly undertaken the preliminary steps for securing a suitable building for the hospital, and its equipment and for the engagement of the necessary staff. The initial expenditure alone is estimated at £4,000, and even allowing for the War Office Grant of 3/- per bed for every bed occupied, it is estimated that not less than £5,000 per annum will be required for maintenance of the hospital. It is of paramount importance that the maintenance of the hospital be assured and this can be done only by a steady influx of monthly subscriptions.

The endowment of a bed or beds in the Auxiliary Hospital would greatly assist to the furtherance of the object in view.

Should a subscriber or group of subscribers, or firm or estate wish to endow a bed or beds in the Auxiliary Hospital, please notify the Honorary Secretary of the Central Committee in writing.

The approximate cost of endowing a bed for a year is £100 gross and an allowance of 3/- a day, if the bed is occupied, is provided by the Military Authorities, so the nett cost of a bed might reasonably be considerably reduced to say £75 or £50 per year.

The advantages possessed by a small hospital over those of the large hospitals for certain cases have been advocated strongly by the eminent surgeon, Sir Frederick Treves, in these words:

"The small hospital is less formal than the big one, it is less mechanical, it is kinder. The 'sickly sights,' 'suspicious smells,' and 'horrid sounds' are less frequently obtruded on the attention; it is possible to mitigate and disguise them."

No stronger testimony could be forthcoming to prove the need of practical support to alleviate the pain and suffering of those who are fighting our battles, some of whom may have gone from these States to take their share in the struggle on which our very existence depends.

Even though the war might terminate suddenly hospitals will be required for a considerable time in order to treat those who have been wounded, assist those who are maimed or whose nervous system has been destroyed by shock.

The Auxiliary Hospital, though the primary object and one identified with these States is, however, not the only direction in which the proceeds of the Federated Malay States War Relief Fund are to be applied. The general scheme of the Fund, as already notified, has been broadened.

The second object in view is the rendering of assistance to those who have gone from the Federated Malay States to take part in the war and their dependents, some of whom have already been wounded or lost their lives. To fulfil adequately this object alone will require a large sum and the Committee is most anxious that the donations and subscriptions for this purpose shall be increased. It must be anticipated that the Government will be largely influenced in deciding the amount of the contribution to be made to this important branch of the Fund by the amount of the contributions of the public. Then we have to bear in mind a third aim and that is transmission to any recognized public fund connected with war relief of contributions specially earmarked for that purpose.

There are many funds of this nature, not already organized out here to which some portion of the Federated Malay States War Relief Fund might be allocated. Among those to which particular notice may be drawn as deserving of our support are:

1. The National Relief Fund for Belgium.
2. The Serbian Relief Fund.
3. A Motor Ambulance to be used in connection with the Auxiliary Hospital.
4. The Lord Roberts Memorial Fund for Disabled Soldiers and Sailors, a Branch of the Soldiers and Sailors Help Society.

NOTE.—This is a society which assists partially disabled soldiers. They have workshops and teach disabled men trades, and thus enable them to earn a living which besides adding to the small pension gives them employment.

Help for all these objects is most urgently needed.

When sending in your donations or subscriptions kindly be good enough to specify to which of the aims set out above you wish your contribution to be allocated; should this not be stated the amount will be applied to the Auxiliary Hospital.

Remember that the war has so far touched us but lightly but that our future material welfare in this protected corner of the British Empire rests upon the efforts of those of our kith and kin who are sacrificing themselves for our protection. We are denied an opportunity of sharing their glories but we can show our appreciation of their services by giving all we can spare to help in relieving their sufferings and succouring their dependents.

We appeal to all, not to relax, but to increase the efforts already made. Every dollar that you can give is wanted now and will be

wanted for some considerable time. We therefore hope that residents of the Federated Malay States will continue to generously support this Fund.

Kuala Lumpur, Selangor, F. M. S.,
23rd August, 1915.

STATISTICS OF CROPS, ACREAGES, ETC. FOR THE YEAR 1914.

The following statistics of crops, acreages, production, etc. for the year 1914 were unavailable in their complete form when the report of the Director of Agriculture went to press.

The returns have been obtained with as much accuracy as possible but they must be interpreted as only approximate.

Comparative Returns of Exports, F. M. S., during the second quarters 1915 and 1914.

Articles	How counted	Selangor.		Perak.		Negri Sembilan.		Pahang.		1915 Total.		1914 Total	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Coconuts	Pikuls	...	$ 1,355	...	$ 8	...	$ 136	...	$ 42	...	$ 1,541	...	$ 714
Copra	,,	8,654	74,799	43,580	381,429	333	2,913	461	4,096	53,028	463,237	59,761½	675,371
Coffee	,,	1,955¼	55,460	25	504	...	...	...	..	1,980¼	55,964	2,207$\frac{7}{15}$	78,100
Padi	,,	57½	115	31,255	62,939	7	21	...	...	31,319½	63,075	37,284	75,788
Rice	,,	...	...	56,110	237,317	...	...	...	...	56,110	237,317	55,627	245,751
Pepper	,,	3½	72	...	...	26	539	51½	1,027	81	1,638	41	755
Sugar	,,	...	...	5½	83	...	...	...	...	5½	83	5½	63
Tapioca	,,	...	...	2,231	11,274	5,555	41,915	4,498	28,112	12,284	81,301	11,348	41,948
Cambier	,,	66	500	...	...	3,117	29,962	...	...	3,183	30,462	2,076½	17,164

Comparative Returns of Imports, F. M. S. during the second quarters 1915 and 1914.

Articles	How counted.	Selangor.		Perak.		Negri Sembilan.		Pahang.		1915 Total.		1914 Total.	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$		$		$		$
Coconuts	Pikuls	...	...	...	1,953	...	...	...	...	...	1,953	...	8,155
Copra	,,	...	...	2 7/10	26	...	...	...	...	2 7/10	26	5	48
Coffee	,,	1½	30	197	4,537	24	285	54	1,778	276½	6,630	271	7,963
Padi	,,	1,673½	4,799	4,559	9,670	363	1,067	587	1,699	7,182½	17,235	9,955	26,720
Rice	,,	340,171	1,588,673	336,139	1,526,998	76,883	361,843	25 242	125,423	778,435	3,604,937	871,724	4,277,705
Pepper	,,	217½	5,119	70½	2,240	14	680	...	...	302	8,039	287	7,345
Sugar	,,	13,194 49/50	107,098	26,291⅕	210,321	3,508	28,000	1,921	18,350	44,915 9/50	363,769	65,952½	398,637
Tapioca	,,	717	3,033	785½	15,772	903	1,484	2	15	2,407½	20,304	2,336	17,633
Gambier	,,	49	644	127 7/10	2,411	62	491	26	349	264 7/10	3,895	243	3,075

Exports of Rubber from British Malaya (other than the F. M. S.)

State.	Month.	Quantity.
Johore	July, 1915.	lbs. 1,629,976
Kelantan	January to July, 1915.	lbs. 625,295½
Kedah	January to June, 1915.	lbs. 1,787,627½
Perlis	June to July, 1915.	lbs. 691½
British N. Borneo	——	——
Brunei	January to July, 1915.	lbs. 22,677

FEDERATED MALAY STATES.

Comparative Statement of Cultivated Rubber Exported, with Value and Duty Collected Thereon, During the Years 1915 and 1914.

Destination.	Exported during August, 1915.	Previously.	Total export during the year.	Export during similar period of previous year.	Increase.	Decrease.	Value of rubber exported, 1915.	Duty collected, 1915, to date.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	$	$ c.
Straits Settlements ...	2,607.85	14,969.29	17,577.14	11,313.23	6,263.91	...	34,941,071	
United Kingdom ...	1,129.99	7,401.81	8,531.80	6,013.12	2,518.68	...	16,900,307	
Continent of Europe ...	...	8.00	8.00	801.78	...	793.78	15,880	
Ceylon	58.24	402.85	461.09	442.88	18.21	...	911,998	
Other Countries ...	...	95.07	95.07	100.27	...	5.20	181,447	
Total ...	3,796.08	22,877.02	26,673.10	18,671.28	8.800,80	798.98	52,950,703	1,369,847 16

KUALA LUMPUR,
6th September, 1915.

F. J. WELD,
Acting Commissioner, Trade and Customs, F.M.S.

Abstract of Meteorological Readings in the various Districts of Malaya for the month of August 1915.

DISTRICT.	Mean Barometrical Pressure at 32° Fah.	Maximum in Sun.	Temperature.				Hygrometer.				Prevailing Direction of Winds.	Total Rainfall.	Greatest Rainfall during 24 hours.
			Mean Dry Bulb.	Maximum.	Minimum.	Range.	Mean Wet Bulb.	Vapour Tension.	Dew Point.	Humidity.			
Kelantan, Kota Bahru ...	...	131.6	83.3	91 77	74.29	17.48	77.6	.832	73.7	73.	...	3.80	.96
Pahang, Kuala Lipis ...	...	...	81.5	90 3	73.5	16.8	76.2	...	...	...	...	7.43	1.61
Johore, Johore Bahru ...	...	...	...	88.79	74.13	14.66	...	...	...	...	...	5.70	...
Singapore, Kandang Kerbau	29.805	160.5	84.4	89.1	76.8	12.3	78.6	.893	...	76.	...	6.48	1.83
Malacca, Durian Daun ...	29.792	152.7	82.9	88.9	71.7	17.2	79.6	.966	...	86.	N.W.	9 30	2.97
Negri Sembilan, Seremban	...	153.	79.7	88.3	71.8	16.5	75.9	.843	73.9	83.7	N.W.	10.15	2.59
,, Kuala Pilah ...	...	152.9	80.9	91.5	73.3	18 2	78.4	.918	76.6	86.6	...	5.75	1.04
,, Port Dickson	...	127.2	82.5	88.8	74.5	14.2	78.	.871	78.4	78.7	...	22.22	10.17
Selangor, Kuala Lumpur ...	29.815	141.5	80.6	87.9	77.1	10.8	77.8	.905	75.4	85.	S.W.	11.79	2.95
,, Klang ...	...	...	81.1	87.0	74.8	12.2	77 9	...	...	...	...	7.83	2.49
,, Kuala Selangor ...	...	..	...	89.0	75.2	13 8	...	...	...	...	...	5.03	2.05
,, Rawang ...	...	...	...	91.7	74.4	17.3	...	...	...	...	...	3.16	1.48
Perak, Telok Anson ...	...	...	82.33	93.	70.	23.	77 90	.898	...	83.	...	9.08	2.20
,, Ipoh ...	...	...	82.81	94.	71.	23.	77.22	.861	74.48	77.	...	11.00	2.90
,, Taiping ...	...	...	81.28	93.	72.	21.	77.29	.884	...	85	...	19.24	3.77
,, The Cottage ...	...	...	...	...	...	...	...	...	...	...	...	20.88	4.34
,, Parit Buntar ...	...	...	82.73	92.	71.	21.	77.86	.889	...	81.	...	15.80	3.56
Penang, Georgetown ...	29.767	139.0	82.3	88.0	73.7	14.3	77.7	.899	74.8	80.3	...	18.02	4.93
Kedah, Alor Star ...	...	...	...	...	...	...	...	...	...	...	...	13.18	...
Perlis, Perlis ...	...	...	...	...	...	...	...	...	...	...	...	10.64	...

TABLE I.

Agricultural Acreages Federated Malay States, 1913 and 1914, Excluding Padi and Horticulture.

From Estates over 100 Acres in Extent.

	Selangor		Perak		Negri Sembilan		Pahang		Total.	
	1913	1914	1913	1914	1913	1914	1913	1914	1913	1914
Coconuts	11,320	23,030	24,611	31,566	1,892	1,054	2,352	2,377	40,175	58,027
Rubber	194,946	205,907	142,649	164,052	85,806	90,422	9,923	10,669	433,324	471,050
Coffee	5,929	6,200	1,696	1,700	10	15	60	75	7,695	7,990
Other Cultivations	1,721	1,854	898	909	1,013	1,016	501	Nil	4,133	3,779
Total ..	213,916	236,991	169,854	198,227	88,721	92,507	12,836	13,121	485,327	540,846

TABLE II.

Agricultural Acreages, Malaya, 1914, From Estates over 100 Acres in Extent.

	Federated Malay States	Straits Settlements	Johore	Kelantan and Kedah	Trengganu	Grand Total
Rubber Alone	459,383	121,869	119,232	55,931	1,702	758,117
Rubber and Coffee	4,333	....	....	542	....	4,875
Rubber and Coconuts	1,013	1,009	....	311	....	2,333
Rubber with other crops ..	6,321	5,082	2,327	3,865	100	17,695
Total ..	471,050	127,960	121,559	60,649	1,802	783,020
Coconut Alone	54,254	22,418	1,175	15,785	5,186	98,818
Coconut and Coffee	2,760	40	....	....	....	2,800
Coconut with other crops exclusive of Coffee	1,013	1,009	50	311	100	2,483
Total ..	58,027	23,467	1,225	16,096	5,286	104,101
Coffee Alone	897	....	35	500	....	1,432
Coffee with other crops ..	7,093	40	....	542	....	7,675
Total ..	7,990	40	35	1,042	....	9,107

TABLE III.

Rubber Statistics, Federated Malay States, up to 31st December, 1913 and 1914.

From Estates over 100 Acres in Extent.

	Selangor		Perak		Negri Sembilan		Pahang		Total	
	1913	1914	1913	1914	1913	1914	1913	1914	1913	1914
No. of Estates	273	305	297	333	140	155	24	24	734	817
Acreage in Possession	337,957	358,379	300,114	296,669	153,462	154,228	39,145	22,456	830,678	831,732
Acreage planted up to 31st December 1913 and 1914	194,946	205,907	142,649	164,052	85,806	90,422	9,923	10,669	433,324	471,050
Rubber Alone	189,331	199,823	138,974	160,055	84,765	88,843	9,363	10,662	422,433	459,383
Rubber interplanted with catch crop	5,615	6,084	3,675	3,997	1,041	1,579	560	7	10,891	11,667
Acreage producing	86,888	105,130	48,765	68,892	26,578	37,485	2,159	3,694	164,390	215,201
Planted during 1913 and 1914 ..	24,103	10,961	2,362	21,403	7,242	4,616	420	746	34,127	37,726

TABLE IV.

Rubber Statistics, Malaya, up to 31st December, 1913 and 1914.

From Estates over 100 Acres in Extent.

	Federated Malay States		Straits Settlements		Johore		Klantan and Kedah		Trengganu		Total.	
	1913	1914	1913	1914	1913	1914	1913	1914	1913	1914	1913	1914
No of Estates ..	734	817	196	205	113	113	100	147	8	8	1,151	1,290
Acreage in Possession	830,678	831,732	224,560	229,343	344,203	344,362	197,184	221,959	25,606	26,154	1,622,231	1,653,550
Acreage planted up to 31st December 1913 and 1914 ..	433,324	471,050	111,316	127,960	117,022	121,559	45,373	60,649	1,510	1,802	708,545	783,020
Rubber Alone ..	422,433	459,383	102,152	121,869	114,116	119,232	42,502	55,931	1,410	1,702	682,613	758,117
Rubber interplanted with catch crop ..	10,891	11,667	9,164	6,091	2,906	2,327	2,871	4,718	100	100	25,932	24,903
Acreage producing..	164,290	215,201	29,849	35,693	15,868	23,990	3,452	9,265	..	..	213,459	284,149
Planted during 1913 and 1914 ..	34,127	37,726	17,053	6,807	25,195	2,486	10,536	3,697	13	2	86,924	50,718

TABLE V.

Comparative Table of Rubber Crops, Malaya, 1906 to 1914.

State	1906		1907		1908		1909		1910		1911		1912. *a.*		1913. *a.*		1914. *a.*	
	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.
Selangor	276	16	504	19	824	6	1,641	5	3,148	13	5,106	14	7,482	6	10,110	15	12,601	6
Perak	42	7	121	16	171	..	473	9	1,322	8	2,697	4	4,116	18	6,623	17	8,959	7
Negri Sembilan ..	65	12	262	..	430	..	601	2	1,160	12	1,918	12	2,518	16	3,339	16	4,203	18
Pahang	..	..	..	..	..	..	..	..	x. 1	2	13	18	74	14	155	9	337	19
Malacca	* 5	7	10	10	23	13	x. 16	9	267	16	382	11	1,742	6	3,549	2	3,979	16
Province Wellesley ..	* 6	1	36	13	41	7	131	1	198	19	571	15	1,973	16	2,498	12	3,076	8
Johore	21	6	81	9	90	..	146	5	296	12	404	2	968	6	1,645	7	2,861	7
Kelantan and Kedah ..	..	..	..	..	..	..	..	..	18	11	23	..	79	6	246	18	1,383	18
Trengganu	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	417	9	1,017	7	1,580	6	3,009	11	6,414	13	11,117	16	18,956	8	28,169	16	37,403	19

In Province Wellesley are included thirty-six estates in Singapore, twenty three estates in Penang and eight estates in Dindings.

* These figures are approximate.

× This is the figure returned, but the actual output was a good deal higher.

a Figures are from estates over 100 acres in extent.

TABLE VI.

Estate Labour, Federated Malay States, 1914, From Estates over 100 Acres in Extent.

Race	Selangor	Perak	Negri Sembilan	Pahang	Total
Tamil Men	46,418	36,803	9,154	1,064	93,439
Tamil Women	14,329	10,932	2,773	103	28,137
Tamil Children	5,189	3,454	650	17	9,310
Javanese Men	2,272	4,644	1,656	613	9,185
Javanese Women	168	2,004	56	330	2,558
Malays	1,235	5,664	1,397	251	8,547
Chinese	7,449	7,287	14,593	1,137	30,466
Others	436	422	122	57	1,037
Labour Total ..	77,496	71,210	30,401	3,572	182,679

TABLE VII.

Estate Labour, Malaya, 1914, From Estates over 100 Acres in Extent.

Race	Federated Malay States	Straits Settlements	Johore	Kelantan and Kedah	Trengganu	Total
Tamil Men	93,439	10,802	4,233	3,552	62	112,088
Tamil Women	28,137	4,234	850	783	10	34,014
Tamil Children	9,310	507	230	256	2	10,305
Javanese Men	9,185	2,444	3,315	594	2	15,540
Javanese Women	2,558	1,227	405	104	....	4,294
Malays	8,547	4,336	1,011	10,892	3,200	27,986
Chinese	30,466	8,606	14,784	5,458	466	59,780
Others	1,037	717	495	280	2	2,531
Labour Total ..	182,679	32,873	25,323	21,919	3,744	266,538

State	(A) Area under Padi 1912-1913 (acres)	(B) Area under Padi 1913-1914 (acres)	(C) Area under Padi 1914-1915 (acres)	Yield in gantangs (A)	Yield in gantangs (B)	Yield in gantangs (C)	Remarks.
Perak	84,550	81,153	87,733	18,282,482	21,869,421	22,347,230	
Selangor	5,476	5,639	8,810	829,696	966,754	1,376,725	
Negri Sembilan	28,227	29,018	28,570	4,980,762	3,952,307	4,198,386	Areas for 1915-16 not yet available.
Pahang	7,620	8,018	21,188	1,055,399	2,426,467	2,645,565	
Total ..	125,873	123,828	146,301	25,148,339	29,214,949	30,567,906	